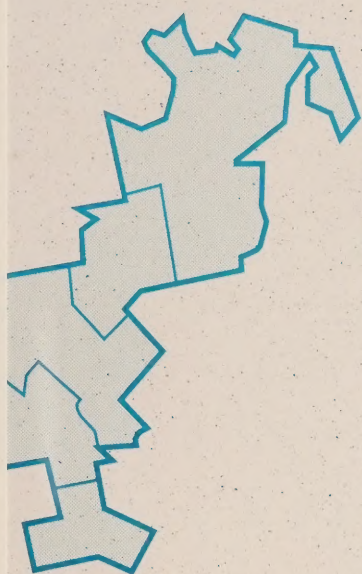


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**DISCUSSION  
PAPER**

# CROSS-BOUNDARY ISSUES IN SOUTH CENTRAL ONTARIO



MINISTRY  
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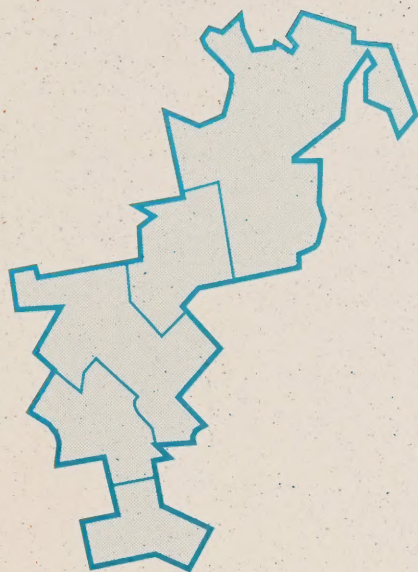






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**A DISCUSSION  
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# CROSS-BOUNDARY ISSUES IN SOUTH CENTRAL ONTARIO



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OF MUNICIPAL  
AFFAIRS



Ontario





This paper was prepared by the Ministry of Municipal Affairs in consultation with an inter-ministry advisory committee comprising representatives from the ministries of Environment, Treasury and Economics, Agriculture and Food, Natural Resources, Transportation, Industry, Trade and Technology, and the Office of the Greater Toronto Area.



Additional copies of this discussion paper are available at:

**Ministry of Municipal Affairs**  
Provincial Planning Policy Branch  
11th Floor, 777 Bay Street  
Toronto, Ontario  
M5G 2E5

**Cambridge Field Office**  
150 Main Street N1R 6P9  
(519) 622-1500  
Toll Free: 1-800-265-3574

**Guelph Field Office**  
147 Wyndham Street North, 4th Floor N1H 4E9  
(519) 836-2531  
Toll Free: 1-800-265-7236

**Orillia Field Office**  
200 Memorial Avenue, Unit 117 L3V 7R3  
(705) 329-6006  
Toll Free: 1-800-461-0279

**Disponible en français :** Questions touchant l'ensemble de la région du Centre-Sud de l'Ontario



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# Introduction

In these challenging economic times, it is essential to plan for growth in our communities in balance with social and environmental goals. The forces which contribute to growth and change - and its social and environmental implications - often extend beyond the boundaries of individual municipalities.

Located beyond the boundaries of the Greater Toronto Area, extending from Orillia to Brantford, South Central Ontario is an area facing issues of urban and rural development that have little regard for municipal boundaries.

The purpose of this study is to review the broader implications of long-term growth and servicing issues facing the communities of South Central Ontario. Stepping back to view the "big picture" will help to identify cross-boundary issues shared by the area's communities. The paper should serve to stimulate discussion of possible joint approaches to these issues.

# Summary

The communities of South Central Ontario are part of Canada's economic heartland, enjoying one of the nation's best competitive locations, adjacent to Toronto and the industrial markets of the United States. Local economies, while challenged by economic restructuring, contain a diverse range of manufacturing, tourism and service industries. Agriculture is an integral part of life throughout the area, with local farms accounting for 15% of provincial sales.

South Central Ontario benefits from a strong network of communities, ranging from cities like Barrie and Kitchener to the many towns and villages throughout the area. Together they provide a broad range of services, employment and living opportunities. The area's population is expected to grow from 922,000 in 1991 to nearly 1,200,000 by 2011, making it one of the most rapidly growing areas in the Province. Yet over half of the 153,000 dwellings that will be needed to house that growth have already been planned.

There are water supply problems in many communities, often for financial, administrative and planning reasons rather than a lack of water resources. However, the capacity of the area's lakes, rivers and streams to accept sewage flows is likely to be the ultimate limit to the sustainable growth of most communities. For this reason, shared growth and servicing issues must be viewed on a watershed basis.

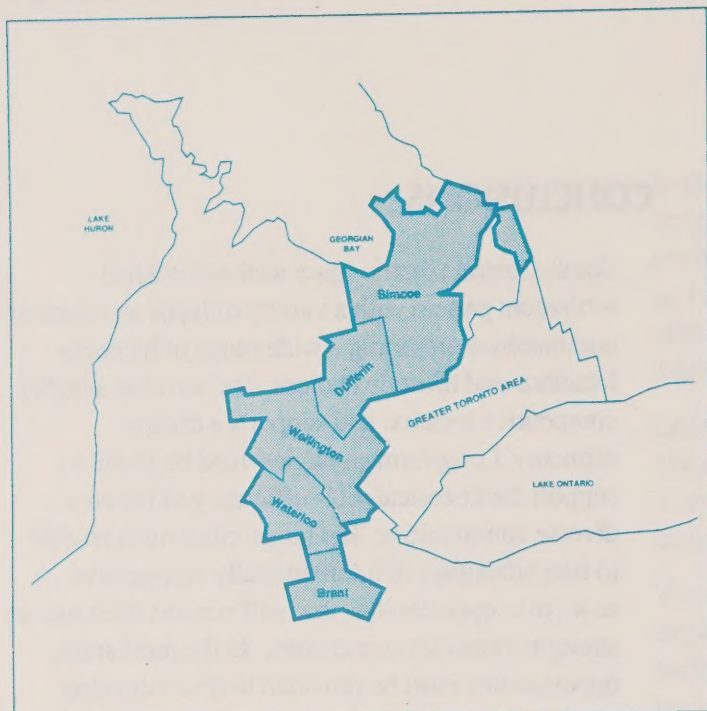
South Central Ontario is contained largely within three watersheds - the Grand River, the Nottawasaga River and Lake Simcoe. Between them is a sensitive upland area providing the water source for several rivers, including the Maitland, Grand, Credit and Nottawasaga.

## CONCLUSIONS

- South-Central Ontario has a well-established settlement pattern with a variety of types and sizes of communities providing a wide range of business locations and lifestyle choices. The area has a highly competitive location and supports a diverse economy. Long-term strategies must be found to support the historical self-sufficiency of the area's diverse communities. The larger cities must be able to take advantage of internationally competitive economic opportunities that will support their role as strong regional service centres. In the rural areas, opportunities must be provided to direct development demand away from farmlands and resource areas into serviced communities.
- A water supply system based on a major Great Lakes pipeline is in itself unlikely to provide long-term answers to area servicing concerns because the ultimate growth limits are likely to be caused by sewage assimilation capacity of the receiving lakes and streams. Water supply must be planned together with sewage disposal to protect watershed ecosystems and ensure efficient public investments in infrastructure. Any water supply proposals must be evaluated in concert with complementary proposals for sewage disposal in the context of regional settlement and watershed plans.
- To balance economic and environmental priorities in the area, long term settlement, servicing and infrastructure planning must be coordinated with watershed planning in three watersheds: the Grand River, the Nottawasaga River, and Lake Simcoe.
- An opportunity exists to protect the headwaters of several important river systems centred in Dufferin county through a long term cooperative approach to planning, thereby avoiding the need for reactive crisis management as was needed in the Oak Ridges Moraine.



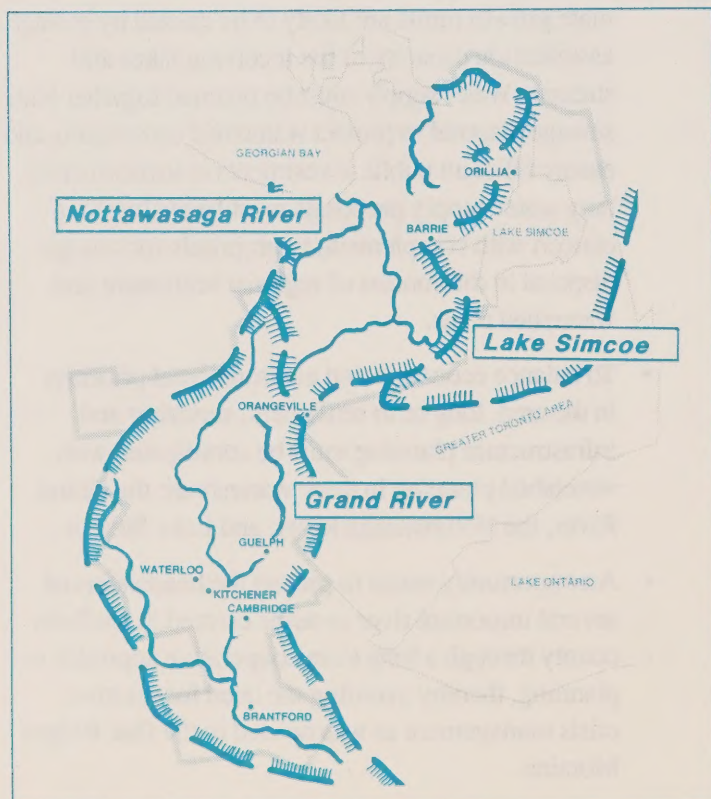
## Map 1



## The Study Area

South Central Ontario is made up of the Regional Municipality of Waterloo and the Counties of Simcoe, Dufferin, Wellington and Brant. (Map 1) In 1991 this area had a population of about 922,000 within its seventy-two municipalities.

## Map 2



## Major Watersheds

As Map 2 shows, the boundaries of South Central Ontario coincide closely with the major watersheds of the Grand and Nottawasaga rivers.



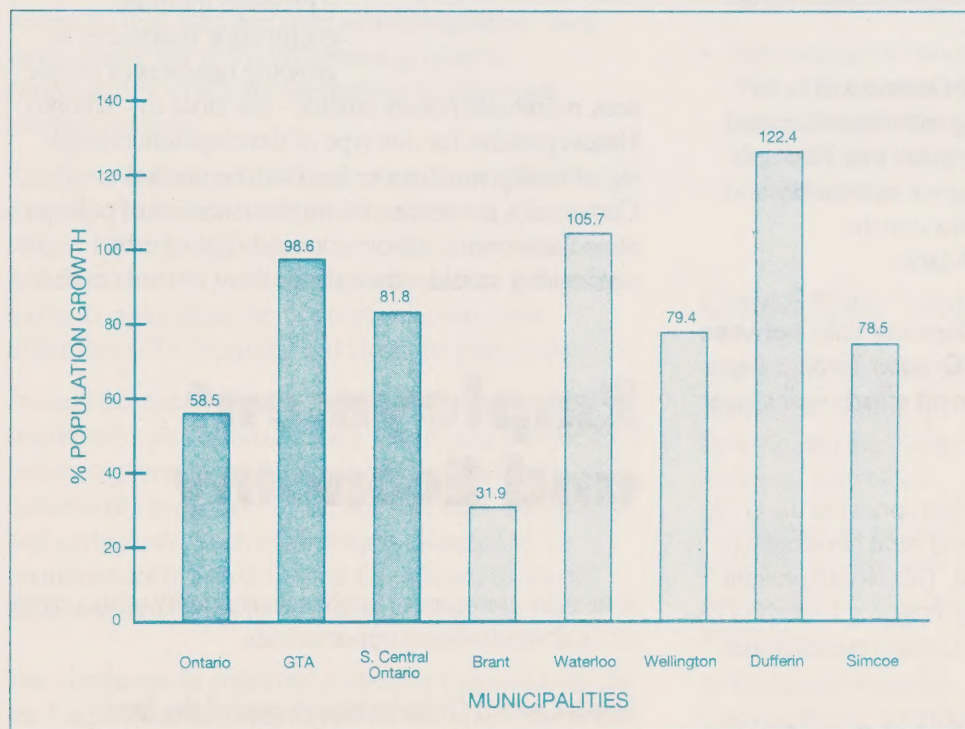
# Population and Housing

South Central Ontario is one of the most rapidly growing areas of the province. From 1961-1991 the area grew by over 400,000 people to the current level of 922,000.

The rate of growth experienced in South Central Ontario in the past 30 years is close to that of the GTA, which doubled its population in the same period (Figure 1).

Both Waterloo Region and Dufferin County more than doubled in that time and only Brant County's 32% growth was below the provincial average.

FIGURE 1  
POPULATION GROWTH RATES 1961-1991



Most of the population of South Central Ontario (59%) is concentrated in a few major communities. (Table 1). The remaining 41% (381,000) is distributed among towns, villages and rural townships, and includes widespread rural settlement.

Table 1  
1991 POPULATION OF MAJOR CITIES

Kitchener	163,000
Waterloo	72,000
Guelph	86,000
Cambridge	86,000
Brantford	81,000
Barrie	53,000
	541,000

The Ministry of Treasury & Economics estimates that the population of South Central Ontario will grow from 922,000 in 1991 to 1,170,000 in 2011: an increase of 248,000, or 12,400 people per year. This is somewhat lower than the 1961-91 average of nearly 14,000, and the more recent 1986-91 average of over 15,000 per year. Economic conditions will affect the rate of growth, but it is clear that there will be significant population growth over the next 20 to 30 years.

Growth rates for South Central Ontario and the GTA are expected to be almost identical over the next twenty years, and will continue to be above the provincial average.

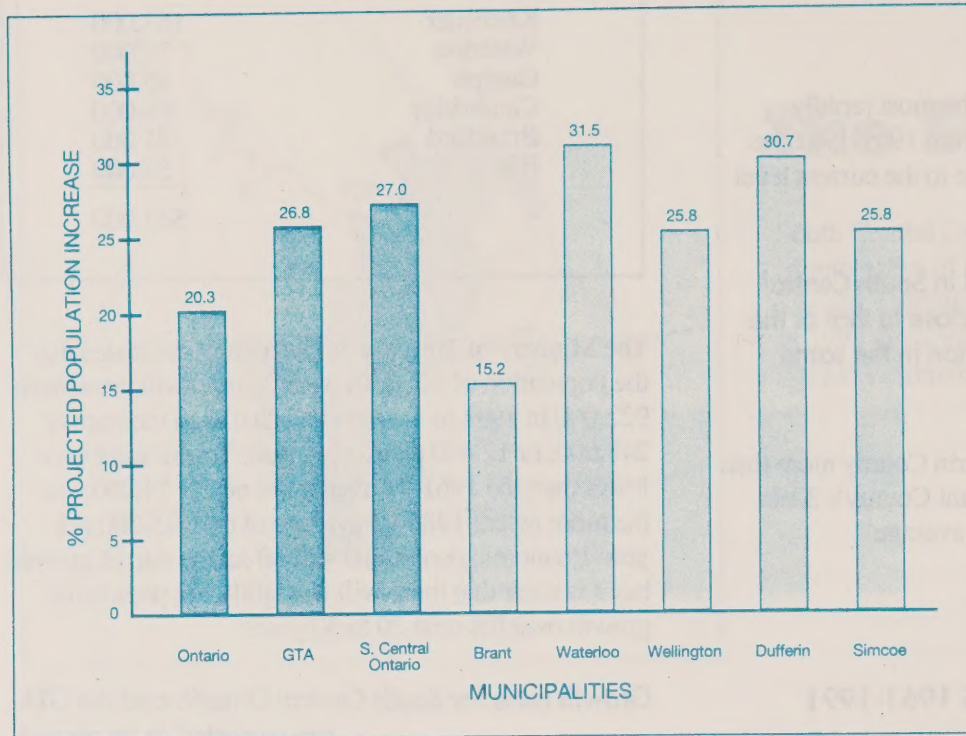
Within South Central Ontario, only Brant County is expected to grow below the average provincial rate. (Figure 2).

Some of the growth will be made up of commuters to the GTA. Many home seekers will continue to be priced out of the Toronto housing market and will continue to be drawn to the lower prices in South Central Ontario. Others, looking simply for a more relaxed pace of life, will

move to the smaller cities and towns. These factors, together with the attractiveness of smaller communities and ease of commuting will influence the amount of spill over growth from the GTA to South Central Ontario.



**FIGURE 2**  
**PROJECTED GROWTH RATES 1991-2011**



A further 58,000 units have been proposed in specific communities, but currently projected water and sewer improvements will accommodate only 34,000 of these proposed units.

Approximately 74,000 housing units - almost half of those needed by 2011 - have been approved or can be accommodated in areas likely to have servicing capacity. The location of 79,000 units remains to be planned. At urban densities, these units would need about 4,000 hectares of land - an area half the size of Barrie or Guelph.

However, some of this demand could be for rural homes on independent services. An aging population could bring with it pressure for more countryside residences as growing numbers of people seek retirement homes outside - but close to - Toronto. Unless policies for this type of development change significantly, much more land will be needed. Conversely, the successful implementation of policies aimed at securing a more compact type of urban community would reduce the amount of land needed.

The challenges for South Central Ontario will be to attract employment growth along with the anticipated growth in population, and to recognize that Toronto's economic and development influence extends beyond artificial administrative boundaries into the communities of South Central Ontario.

**The strong economic and development links between South Central Ontario and the Greater Toronto Area demand that growth management efforts in the two areas be coordinated.**

For example, efforts to curtail urban sprawl in the GTA can be complemented by urban and rural development policies in South Central Ontario. This would prevent the problems of sprawl from leap-frogging beyond GTA communities into South Central Ontario communities.

## Future Housing Demand and Supply

South Central Ontario currently has about 383,000 housing units. Roughly 153,000 new housing units will be needed in the area by 2011, an increase of 40% over the next 20 years.

As of March 1991, 40,000 new housing units had already been approved<sup>1</sup> in South Central Ontario.

## Employment and Economy

A healthy community implies an economy with a range of local employment opportunities.

South Central Ontario enjoys one of the best competitive locations in Canada. Close to the GTA's population, market and resources and well-served by transportation and communication facilities, the area forms a key part of Ontario's manufacturing and industrial complex.

<sup>1</sup> Approved housing units include those with final or draft plan of subdivision approval.



The larger communities in the area have a strong, diversified manufacturing base. But that base is vulnerable to the forces of global and continental restructuring. A heavy reliance on automobile parts and metal products - and the restructuring in this sector - could mean further plant closures. In the longer term, high skill levels and an excellent location should serve the area well as Ontario's economy re-adjusts.

The agricultural industry is well developed in South Central Ontario, with a highly productive land base and good access to major markets. However, the industry is being affected by continental and global market trends, including depressed world commodity prices and the use of export subsidies by competing nations. Land conversion and scattered development will affect the amount and nature of agricultural activity. A decline in the agricultural sector would directly affect the economic viability of many of the region's small rural service centres.

South Central Ontario's unique recreational resources and the rural and cultural heritage of the area's communities support a significant tourism industry. It is important that development decisions not lead to environmental damage to valuable natural tourism resources (e.g. lake and river shorelines, scenic rural landscapes), nor to the undermining of rural communities which are themselves an important tourism resource.

Kitchener-Waterloo and Barrie are likely to continue to develop as administrative centres attracting a wide range of financial, institutional and government activities as more public and private service industries move to regionalize their operations away from expensive GTA locations and closer to their clients.

In the Kitchener-Waterloo and Guelph area the three universities are national leaders in building partnerships between government, business and the academic community, especially in the fields of high technology and agriculture. Such leadership is essential if communities in South Central Ontario are to remain economically competitive and self-sustaining.

**The challenge in ensuring a healthy economic future for South Central Ontario will be to capitalize on the area's strengths and overall locational advantages, including: existing communities, with their strong base of industry, infrastructure, educational institutions, amenities and skilled workforce; the market access provided by the provincial freeway network, particularly Highway 401; and the high quality of the area's natural and cultural resources.**

# Greenlands and Natural Resources

Most of South Central Ontario's landscape is made up of flat to gently rolling farmland, traversed by river valleys and interspersed with wetlands and woodlands. Water resources include headwater streams, underground aquifers, rivers, lakes and their watersheds. The area is also an important source of aggregate resources for all of Southern Ontario.

The area can be divided into three natural sub-areas (Map 3):

- in the south the Kitchener-Waterloo, Cambridge, Guelph and Brantford areas focus on the Grand River which drains southward into Lake Erie;
- in the north, the Nottawasaga River and Lake Simcoe watersheds, including Barrie and Orillia, drain northward into Georgian Bay; and
- between these two areas, extending from Mount Forest in the west to Cookstown in the east is a sensitive upland area made up of the headwaters of several rivers and bisected by the Niagara Escarpment.

## Grand River Watershed

The Grand River, together with its tributaries, the Nith, Speed and Conestogo, is one of the largest rivers flowing into the Great Lakes. It has 550,000 people within its watershed.

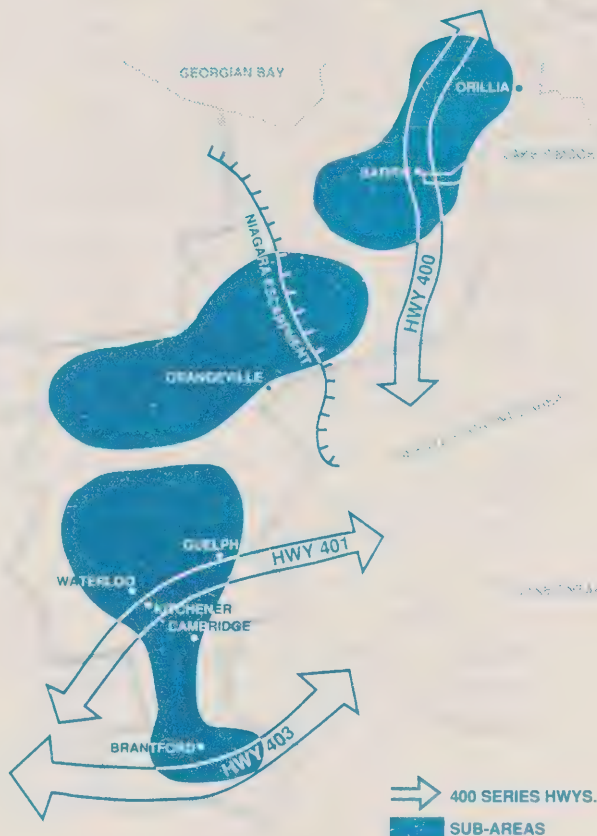
Confidence in the quality of the Grand's water has suffered recently with concerns about toxic discharges and the affects of urbanization and agricultural activities.

In Kitchener-Waterloo, the largest community in Canada relying on groundwater sources for drinking water, a moratorium has been placed on development on septic systems due to growing evidence of groundwater contamination from this source.

Similar pressure on sensitive headwater and wetland



## Sub Areas



## Nottawasaga-Lake Simcoe Watersheds

These two watersheds, with a population of 200,000, take in the central and northern parts of Simcoe County. The area has a seasonal population of 75,000, mostly along the shores of Lakes Simcoe and Couchiching, Georgian Bay and the Nottawasaga and Severn Rivers.

Cottage development and farming operations have affected water quality in both the Nottawasaga River and Lake Simcoe. The expansion of Barrie, Orillia and other communities on Lake Simcoe is now limited by the ability of the lake to absorb more phosphorus. There is also concern about the affect of pollution on Lake Simcoe's sport fishery, one of the largest in Ontario.

To address this problem, the Ministries of the Environment, Natural Resources, and Agriculture and Food, with the Lake Simcoe Region Conservation Authority, have adopted a five-year implementation plan for the Lake Simcoe Environmental Strategy.

Urban and rural settlement plans for the entire Lake Simcoe basin, including those portions in the GTA (York and Durham Regions) need to be coordinated to ensure that Lake Simcoe is protected.

areas may also affect the health of the watershed, particularly east and south of Guelph and west of Cambridge and Kitchener-Waterloo in the Waterloo Hills.

The Grand River watershed must be viewed as a single system to ensure the health of all of its communities. Servicing and settlement decisions made in upstream communities often affect the quality of shared groundwater resources and rivers further down stream.

## Dufferin-North Wellington-South Simcoe Uplands

This area consists of Dufferin County, north Wellington County and much of south Simcoe County. It has about 120,000 people, largely concentrated east of Orangeville. The area's most significant natural feature is the Niagara Escarpment just east of Orangeville and Shelburne.

This entire area is extremely sensitive as it contains the headwater streams of the Maitland, Grand, Credit and Nottawasaga Rivers flowing into Lakes Huron, Erie and Ontario (Map 4). Settlement decisions made here affect the quality and quantity of water resources in downstream communities. They also affect wetlands,



## Major Headwater Areas





forests, fisheries and other wildlife habitats throughout the headwater areas.

Urban expansion in communities like Orangeville, Shelburne and Tottenham will need state-of-the-art wastewater and stormwater management techniques to maintain the quality of headwater streams and prevent harmful downstream effects.

**The importance of the Dufferin-North Wellington-South Simcoe Uplands cannot be overstated: the protection of these headwater areas is vital to the environmental health of the entire South Central Ontario area.**

## Agriculture

South Central Ontario has over two million acres of classes 1 to 4 agricultural soils - almost 10% of the provincial total - and over one quarter of all class 1 and 2 soils in Ontario. The best lands are in central Simcoe County, west Dufferin County, the north and west parts of Waterloo and most of Wellington and Brant Counties.

The land is poorer around the Canadian Shield north of Orillia, near the Niagara Escarpment east of Orangeville and along the Galt-Paris Moraine south of Guelph and Cambridge. An awareness of the differences in land capability and agricultural practices can help decision-makers in minimizing the loss of prime farmland and conflicts with agricultural operations.

In 1986, South Central Ontario had 9,500 farmers with sales of \$822.4 million, 15% of the provincial total. Livestock operations (cattle, dairy, hogs) predominate throughout the area except for the small grains and field crops in Brant, and substantial vegetable operations in Brant and Simcoe. The average value of products sold per farm was almost \$86,000 - about \$10,000 above the provincial average. Some 25% of the area's farmers had sales over \$100,000 and over 200 farms had sales in excess of \$500,000.

Farms with highest sales (Map 5) are in the area from Arthur south through Waterloo Region to Brant County, largely on prime lands in the Grand River watershed. The area around Barrie also contains farms with sales above the provincial average, particularly in the Nottawasaga River valley and the Holland Marsh.

South Central Ontario reflects the province-wide decline in the number of farmers and total land area of farms. Between 1971 and 1986, the number of farmers

fell almost 21 percent (23 percent provincially), with a drop of 9 percent in the total farm area (compared to 13 percent across Ontario). These reductions reflect long term trends toward fewer but larger farming operations.

**South Central Ontario's farmers have a total capital investment in their farms of about \$3.3 billion - almost \$341,000 per farm. To ensure that a positive atmosphere for the agricultural industry continues, urban expansion and rural non-farm development must be planned to avoid fragmentation and conversion of productive farmlands and land use conflicts with agricultural operations.**

## Transportation

Investments in transportation facilities have an important influence on the location of urban and rural development pressures. The overall shape of the transportation network can also reinforce economic relationships between communities.

South Central Ontario has an excellent transportation network. Highway 400 provides access to and from Barrie, Orillia and the north, while Highway 401, the province's major transportation spine, and Highway 403 give the Brantford-Kitchener-Guelph area good access to outside markets. Other provincial highways and county roads complete the network.

The main railway lines parallel the Highway 400 and 401 corridors, reinforcing linkages of the area's communities with Toronto, Montreal and the United States. The region has good access to both Pearson International and Hamilton's Mount Hope airport.

Recent or planned improvements to the regional transportation network include the expansion of GO Train service from Toronto to Barrie and Guelph, provision of VIA commuter rail service to Brantford, completion of Highway 403 between Brantford and Hamilton, and widening of Highway 401 between Milton and Kitchener. The possible extension of Highway 410 north from Brampton toward Orangeville has also been discussed.

These transportation lines underline the existence of the three natural sub-areas:

- The Barrie/Orillia area and Bradford are served mainly by Highway 400 and rail lines linking southern Ontario to western Canada.



# Value of Agricultural Products Sold per Farm by Municipality, 1986





The Kitchener/Waterloo-Guelph-Brantford area is served by Highways 401 and 403 and rail lines linking southern Ontario to the US mid-west.

The Orangeville-Shelburne area has no 400 series highways and relies mainly on Highways 9 and 10. The area has no active rail service.

**All major roads and rails through this area focus on Toronto. This provides most communities in South Central Ontario with excellent access to major markets. On the other hand, that same ease of access to Toronto makes commuting from many of the area's communities an attractive proposition for many people.**

The strong economic and transportation linkages between South Central Ontario's communities and the Greater Toronto Area reinforce the need to consider the broad inter-regional implications of transportation investments throughout southern Ontario. For example, congestion on major freeways into and through the GTA can impede the market accessibility of Barrie or Guelph. Similarly, the economic importance of Highway 401 through the Kitchener/Cambridge area is shared by communities throughout southern Ontario, including those in the Toronto area.

## Water and Sewer Services

Other than concern about economic stability, the demand for water and sewer services in the region's growing urban centres is probably the greatest issue being faced by South Central Ontario's communities. All of the area's largest cities, and most of its current and projected population, are located well upstream on rivers and small lakes flowing into the Great Lakes. These communities depend on local groundwater for drinking water and on the rivers and lakes to absorb treated sewage effluent.

Because of the importance of servicing to the future growth of South Central Ontario, consultants were hired to determine the current status and future needs in the area. The study was undertaken in two parts:

**Phase 1** - A Servicing Inventory

**Phase 2** - Ground and Surface Water Resources

### Phase 1

The consultant's task in Phase 1 was to produce an inventory of existing water and sewage systems in the area with respect to current capacities and demand and planned expansions or improvements and to compare these with expected growth in the area. The purpose was to determine the ability of municipalities to absorb projected growth over the next 15-20 years.

In undertaking the study, the consultant had to make certain assumptions that significantly affect the results. Any changes to the assumptions could significantly change the outcomes. Among the assumptions are:

- All future growth will be on full services. The significant amount of residential development on private services was not factored in;
- The Mannheim Project in the Region of Waterloo, the initial phase of which is now under development, will provide enough water for an additional 100,000 units; and
- In cases where expansions are contemplated, the projects will go through the EA process and the funds for expansion will be available.

According to the consultant's study, there is existing capacity in the systems in the area to accommodate an additional 40,000 residential units on full services. However, it is calculated that planned improvements to the water and sewer systems can increase this total to 165,000 units for the study area as a whole.

Although these additional units are more than sufficient to accommodate expected growth in the area in the next 20 years, their distribution does not match expected growth in certain areas. Waterloo Region will have no difficulty absorbing future growth (based on the implementation of the Mannheim scheme) whereas many communities in Simcoe County already face critical water and/or sewage capacity shortages. This is particularly true in the South Simcoe region where many wells have also been found to be contaminated.

Some of these problems indicate a lack of coordination between planning and servicing needs. Some municipalities lack capacity to absorb units for which planning applications have already been submitted. In some municipalities, undeveloped approvals are tying up a significant proportion of plant capacities. As a result, new proposals cannot proceed.

**There is a need for coordination of land use and servicing planning and the setting of priorities and the establishment of priorities between the province and municipalities on servicing needs.**



## Phase 2

The purpose of the Phase 2 study was to determine how much growth could be supported in area municipalities if all water supply and sewage disposal requirements had to be met from local water resources - the sustainable limits of growth in the area. For calculation purposes, a 50 year time horizon was used as a reasonable "ultimate limit".

As in the Phase 1 study, several assumptions had to be made. Changes to any one of them could significantly change the findings. Key assumptions were:

- The per capita demand for the peak day will remain constant at current levels;
- Facility development costs will not be a factor;
- Political constraints to the development of water supplies in adjoining jurisdictions (radius 10 kilometres) will not limit water supply exploration or development;
- All sewage treatment plants will eventually utilize the best available technology; and
- Upstream non-point pollution sources will remain the same over the next 50 years.

According to the consultant's overview, sewage assimilation capacity, not water supply, will be the determining factor in future growth. It indicates that the major cities in South Central Ontario, including the growth centres of Kitchener/Waterloo, Guelph and Barrie cannot reach their 50 year growth potential utilizing local water resources for sewage assimilation.

This finding is in contrast with the perception that exists in many communities in the area that water supply is the real problem. Long term water supply has become of particular concern in southern Simcoe County and the Region of Waterloo. The Region is reviewing the Mannheim scheme because of local concerns over the ultimate effectiveness of the system. In south Simcoe, concern over ground water contamination and pollution of Lake Simcoe have resulted in an appraisal of long term servicing goals. Such concerns have led to repeated calls for pipelines from the Great Lakes to deal with long term water demands.

If the study recommendations are correct, a more coordinated approach to servicing needs in the area must be undertaken if these important centres are to continue to grow.

**Water supply and sewage disposal must be planned together to protect the sensitive rivers and headwaters in the area. This will require planning based on watersheds.**

No decisions on Great Lakes based water pipelines should be made until this planning process is in place.

## Urban and Rural Settlement Patterns

The main purpose of this study is to identify regional scale settlement issues of interest to the Province. To do this, it is important to understand the existing settlement pattern and to appreciate recent trends in urban and rural settlement.

Like much of southern Ontario, most of the area's population is in cities and towns, while rural areas are dotted with villages, hamlets, farms and scattered residences.

**The broad pattern of development is already set: significant changes would require 15-20 years or more to achieve. Fortunately, the overall pattern of strong, attractive, evenly distributed urban communities with a range of housing types and employment opportunities provides a sound basis upon which to build for the future.**

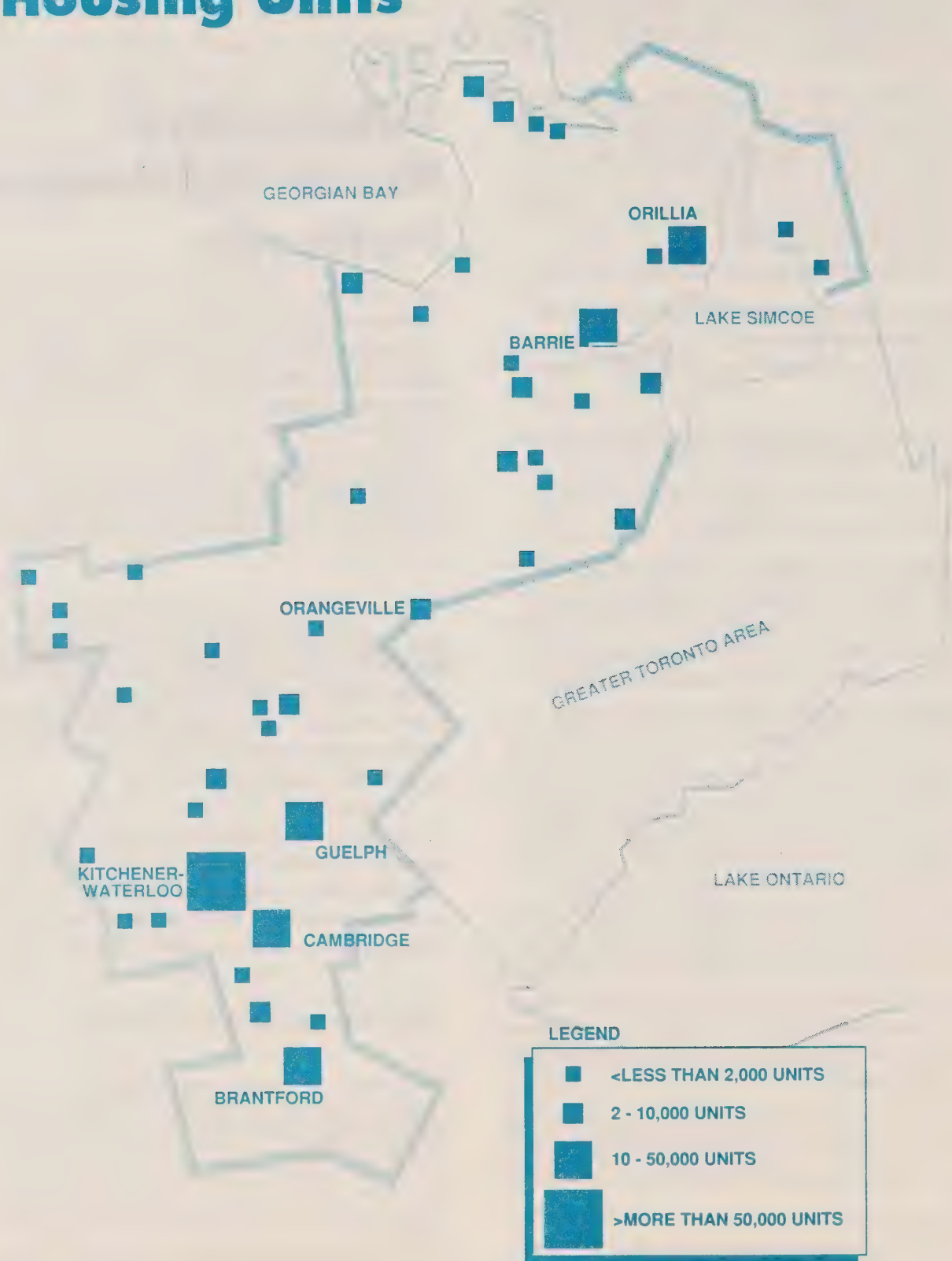
The principles and policies set out in the recently released Government of Ontario "Growth and Settlement Policy Guidelines" point the way to efficient, economical viable, sustainable and environmentally sound growth and settlement patterns in the future.

### Settlement on Urban Services

More than three of every four households in South Central Ontario live within fully serviced urban areas (Map 6). Most of these dwellings are in Kitchener-Waterloo, Guelph, Cambridge, Brantford and a number of smaller communities in the Grand River watershed. Smaller clusters are centred on Barrie and Orillia in the Lake Simcoe and Nottawasaga River watersheds, and along Georgian Bay. A number of smaller serviced communities are scattered throughout the area.



# Fully Serviced Housing Units





With its favourable location, South Central Ontario will keep growing and as the GTA continues to expand, the ripple effects of its growth will put pressure on this area.

**Current municipal official plans in South Central Ontario indicate that most future growth will be channelled into existing urban centres. This will continue to strengthen the larger cities, especially Kitchener-Waterloo and Barrie, as regional service centres.**

The recent extension of commuter train service to Bradford, Barrie, Guelph and Brantford is likely to mean continued pressure for commuter-oriented residential development in these centres. Similar effects could occur with freeway extensions or improvements to Cambridge, Orangeville and Brantford.

Growth in the larger communities may in time change what remains of their “small town” character. This could increase pressure on surrounding smaller communities like Cookstown, Alliston, Shelburne, Fergus, Elmira, New Hamburg and Paris, as people search to recapture a small-town atmosphere. Further growth pressure may be felt in communities which service nearby summer and winter recreational developments, especially along Georgian Bay and Lake Simcoe (e.g. Collingwood, Penetanguishene and Victoria Harbour).

Smaller rural communities further from the GTA and other major centres are unlikely to experience much growth. Again, however, as the population ages, more people may look to retire in smaller and quieter communities. The emergence of strong urban centres in South Central Ontario provides an important opportunity to complement current growth management efforts in the Greater Toronto Area. Regional housing markets and transportation networks do not recognize the GTA’s artificial administrative boundaries. Therefore, as strategies to manage the form of the GTA’s urban and rural growth are implemented, it will be important to ensure that the problems of urban sprawl do not leapfrog to adjacent communities in South Central Ontario.

## Rural Unserved Settlement

South Central Ontario currently has over 102,000 dwellings without full urban services, including over 85,000 units on individual water and septic systems, over 13,000 units with communal water systems (but individual septic systems), and over 4,000 units linked to sewage treatment but relying on individual wells for water.

Rural dwellings are usually built on large lots (i.e., over 1 acre) with individual private wells and septic tank systems, although some rural estate subdivisions are serviced by private or public communal water systems.

**The continued spread of such rural development raises perhaps the gravest long-term threat to a healthy environment - the cumulative impact of individual septic systems on groundwater and natural resources.**

The most significant concentrations of unserved dwellings are found around the largest cities and cottage areas along Georgian Bay, Lakes Simcoe and Couchiching and the Severn River (Map 7). Lesser concentrations are near the GTA boundary and along Highways 400 and 401. There are fewer unserved dwellings in Dufferin and north Wellington counties.

Resource management agencies consistently identify unserved settlement as the biggest impediment to effectively managing important natural resources in rural areas, including:

- the fragmentation of farmland and the introduction of incompatible land uses that inhibit the ability of the farm community to establish effective farm management strategies;
- direct and indirect destruction and fragmentation of natural habitat that reduces the diversity and ecological health of plant and animal communities;
- inability to maintain effective management of aggregate resources due to land fragmentation and the introduction of incompatible land uses; and
- a general concern for reduction in surface and groundwater by the spread of poorly designed and hard to monitor septic systems.

Concentrating growth in serviced urban areas is preferred because it uses less land and makes the provision of effective environmental controls easier and more cost-effective.

Map 8 shows the concentration of housing units linked to communal water supply systems, but relying on individual septic tank systems. Again, these units are clustered around the main centres and along recreational shorelines, particularly near Barrie and along the shore of Lake Simcoe and Georgian Bay. Communities with a high concentration of these units include Paris, New Hamburg, Erin, Barrie, Stroud and Midhurst.



## Concentration of Rural Development on Private Services





# Housing Units with Communal Water Supply Only





The environmental impact of "water only" communities is of particular concern.

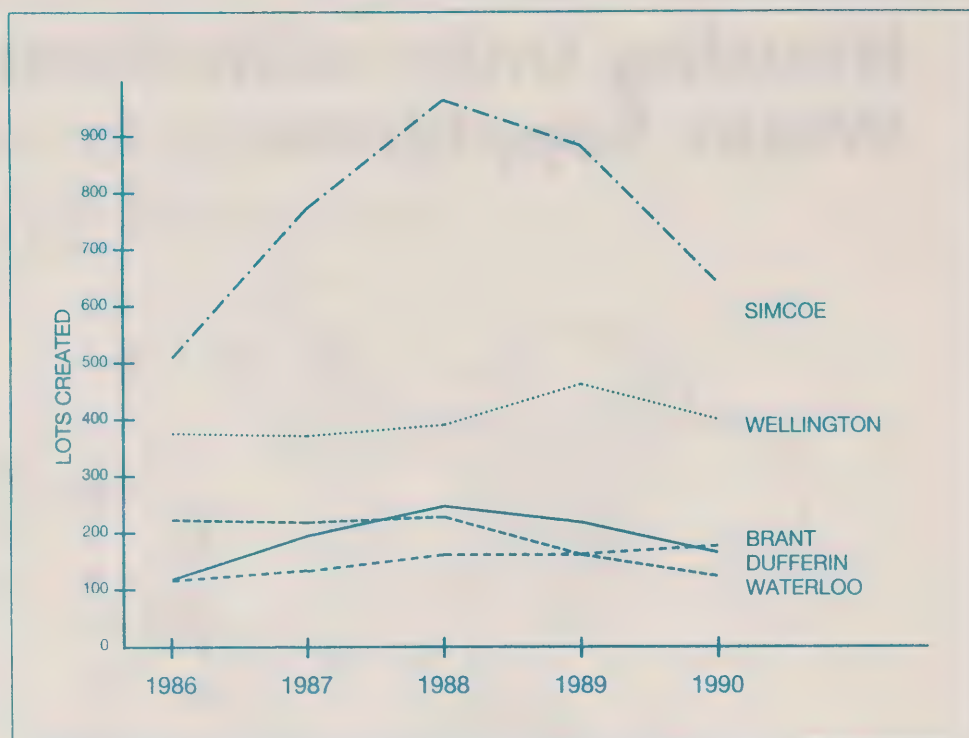
Evidence suggests that access to communal water supplies significantly increases the amount of water used and discarded as wastewater through individual septic systems. The longer term result may be increased contamination of local groundwater supplies and more demands for expensive communal sewage treatment systems.

Most rural development takes place by creating individual land parcels or estate subdivisions. Consent<sup>2</sup> activity has varied considerably in South Central Ontario over the past decade. Total consents granted grew from 1300 in 1986 to almost 1900 in 1988 before falling below 1400 in 1990 (Figure 3). Over half of this total was in Simcoe County. The average for the entire area over this period was 1600 per year.

The significant drop in 1990 is likely due to the downturn in the economy and growing opposition to the fragmentation of rural areas. Some municipalities have also become concerned about the long term effects of rural consents. Medonte Township, in Simcoe County, passed an interim control by-law in July, 1989, which virtually stopped all rural severances until a study of the issue could be made and a new policy developed. In the previous year, the Township had approved 124 consents. The Region of Waterloo has also reduced the number of consents in recent years by bringing in strict standards.

**If permitted to continue, the average of 1600 consents per year would meet about one fifth of the area's projected housing demand to 2011. As such, 32,000 more rural lots will be created by 2011. This would add over 30,000 septic tanks and individual water supply systems to the 100,000 now in place, further threatening the sustainability of the environment.**

FIGURE 3  
RECENT CONSENT ACTIVITY



The location of consents granted over the past five years shows more pressures exist for rural residential development. Proximity to the GTA, especially along Highways 400 and 401, appears to be the most important factor. This is likely to continue as the GTA expands. Recreational lakefront areas are also important magnets for rural unserved development. As Ontario's population ages, such areas will come under even more pressure.

There are significant variations between apparently similar areas, largely due to differing municipal planning policies and philosophies. For example, some townships allow severances only in designated clusters, while others may allow one consent per farm over a specific time period. Concerns have also been expressed that the consent process is being improperly used in some areas to create rural subdivisions through multiple consents, thereby avoiding the lengthier subdivision approval process that involves review by provincial agencies.

Growing concern over the spread of rural consents questions the appropriateness of some municipal planning policies. However, many official plan policies were established years ago when rural growth pressures were not significant.

<sup>2</sup> A consent is an approval to legally sever a parcel of land from a larger parcel to create a new lot.



**A municipality could be following its provincially-approved official plan policies yet still be creating what today may be too many consents.**

While many people undertake severances for the purpose of building “prestige” housing, others view rural severances as a means of providing affordable housing on cheap land with little demand on municipal services. Some people build their own houses and add to them as their resources permit. If such housing is eliminated, or reduced through stricter land use controls, this viewpoint suggests that additional affordable housing will have to be supplied elsewhere.

## Implications of Settlement Trends

By comparing settlement trends with the economic, social and environmental priorities discussed previously, the regional implications of growth can be better understood. Current trends for urban and rural settlement suggest both positive and negative impacts on the health of communities in South Central Ontario.

### Strong Urban Centres

The continued growth of existing urban centres, including the development of Kitchener and Barrie as regional centres, should enable these communities to attract new jobs in the long term. This should help keep a balance of jobs to population and provide residents with opportunities to live and work in the local community.

**Existing communities provide the most viable and cost-effective opportunities for economic growth. They already have the basic infrastructure, skilled workforce, educational institutions, and cultural and recreational amenities needed to provide a stable, high quality environment for business and development.**

### Long Distance Commuting

Most communities want to be as economically independent as possible, but pressures for GTA

commuter housing will continue, particularly in south Simcoe County and the Orangeville, Guelph and Cambridge areas.

In 1986, over 36,000 people commuted from South Central Ontario to work in the GTA and Hamilton. This represented 8% of the area’s workforce. The flow of commuters is highest from parts of Simcoe, Dufferin and Wellington Counties closest to the GTA (Map 9).

Long-distance commuting means increased traffic congestion, wasted energy and more air pollution. It can also be extremely stressful and even lead to potentially harmful effects on families and social relations. Finally, long distance commuting tends to change the economic base of communities by increasing their dependence on the central city (i.e. the GTA) and causing an imbalance between residential and employment activities.

**The development of housing in South Central Ontario communities, without a balanced increase in opportunities for local employment, threatens to turn them into Toronto bedroom communities. Any proposals to extend commuter rail services and freeways to these areas should be carefully evaluated in terms of their potential to draw increasing numbers of long distance commuters.**

Rather than relying simply on commuter rail, linking the area into a comprehensive inter-city passenger rail network would be, in the long term, much more supportive of local economies.

### Water and Sewer Servicing

Water resources are a key linkage between growth, settlement and the natural environment. The provision of water and sewer services has implications for both the quantity and the quality of surface water and groundwater in the area.

**There are two fundamental long-term planning issues related to water and sewer servicing. First is the need to address servicing issues on a watershed basis. Second is that many communities are approaching the sustainable limits of their local natural resources to provide water and treat sewage.**

The Grand, Nottawasaga, and Lake Simcoe watersheds all contain growing urban centres. What happens in one community in a watershed affects other communities downstream. There appears to have been little recognition of this fact in individual municipal official plans even though the principle is well known.



# Commuting Patterns





Some municipalities are already facing growth constraints due to lack of local water and/or sewage capacity and most of the major growth centres will face restrictions within the next 20-50 years. To grow beyond their natural limits will require costly and controversial solutions such as pipelines or dams with all their attendant environmental effects. The evaluation of these alternatives will require a careful balancing of economic and environmental goals for the region.

## Transit-Friendly, Affordable Cities

The maintenance of healthy cities means ensuring high quality transit accessibility between homes, workplaces, community services and open spaces.

**The larger communities in South Central Ontario have the potential to develop in imaginative ways that could economically support more effective public transit systems while helping to maintain the quality of life for city residents.**

The options for transit-friendly communities are outlined in the recently released “Transit-Supportive Land Use Planning Guidelines.” They include incorporating a variety of low-rise, higher density alternatives for high quality affordable housing in existing neighbourhoods and in parts of the community where public services are under-utilized.

## Rural Residential Sprawl

While the effect of rural residences may seem insignificant on an individual basis, the long term cumulative impact of extensive development of this type can permanently change the open character of the countryside into expanses of “semi-urban” rural sprawl. This ignores the intrinsic value of open countryside, treating it instead as an endless supply of cheap building land. In some areas, it threatens the viability of future aggregate or agricultural operations due to the incompatibility of the two land uses.

The environmental effects of rural residential sprawl vary according to the natural characteristics of a particular area. However, the cumulative effect of private septic tank systems can seriously threaten groundwater quality - about which we still understand relatively little. For example, in both Kitchener-Waterloo and Innisfil septic tank systems may be a source of groundwater contamination. There is certainly

little doubt that discharge from private septic systems is a major pollutant of Lake Simcoe.

**Concern is greatest where many septic systems are close together. The clustering of rural development is encouraged in several official plans because it potentially minimizes the impact on agriculture. However, the result may be a more concentrated threat to local groundwater quality. Where clusters of rural homes are also linked to a communal water supply, the increased water flows may further intensify the problem. In the long run, such situations may lead to ad hoc and costly provision of communal sewage treatment facilities.**

It would be far more cost-efficient and environmentally sound to plan for rural communities and services in advance.

## Threats to the Agricultural Economy

The proliferation of non-farm rural settlement can lead to a gradual undermining of the agricultural economy.

**A large influx of rural residences inflates land prices, creating an incentive for farmers to sell their lands to speculators and developers, thereby removing it from food production. As rural homes spread throughout the countryside, conflicts between residences and agricultural operations inevitably arise, often leading to constraints on farming activities.**

## Threats to the Well-being of Rural Communities

Rural sprawl can also have a severe impact on the social and financial health of the rural community.

**As urban dwellers move to the countryside, they often bring their urban values with them — as well as demands for increased public services. Yet such new rural residents often lack ties to the local community, especially if they are commuting long distances on a daily basis.**

The relatively large distances between rural dwellings may also reinforce their isolation from the community. All of these tendencies can have a negative effect on the cohesion and vitality of the local rural community.



## Threats to Headwaters

Fortunately, the important headwater areas of South Central Ontario are generally removed from most settlement activity. This presents what may be a fleeting opportunity to ensure the permanent protection of these sensitive areas before they come under development pressure.

In fact, a few sensitive areas are already under pressure. These include areas south and east of Guelph, Orangeville and its immediate vicinity, and the area south of Barrie. These areas are the most attractive to "urban migrants" and GTA commuters looking for homes in the countryside. In addition to headwater streams, the health of important wetlands and forest habitats is also threatened. Protection of these areas from further threats will require the scale and direction of urban growth to be carefully planned, and a redirection of rural residential development into urban and less sensitive rural areas.

## Human Services for a Growing/Aging Population

The addition of nearly 250,000 people to South Central Ontario over the next 20 years will challenge the provision of health, education, social, recreation and protection services. The number of people aged 65 years or more is expected to increase by over 50,000 by 2011 from the existing total of 109,000. This older generation will be more financially secure than ever before so that the popularity of recreational and retirement communities will increase. And even though this new older generation will also be healthier than ever before, there will be new challenges for human service delivery.

The continued growth of existing communities and the evolution of Kitchener and Barrie into stronger regional centres will present opportunities to decentralize services from Toronto, perhaps creating cost-efficient multi-purpose centres. The coordination of settlement and human services planning in South Central Ontario could, therefore, reap important benefits for the area.

- South-Central Ontario has a well-established settlement pattern with a variety of types and sizes of communities providing a wide range of business locations and lifestyle choices. The area has a highly competitive location and supports a diverse economy. Long-term strategies must be found to support the historical self-sufficiency of the area's diverse communities. The larger cities must be able to take advantage of internationally competitive economic opportunities that will support their role as strong regional service centres. In the rural areas, opportunities must be provided to direct development demand away from farmlands and resource areas into serviced communities.
- A water supply system based on a major Great Lakes pipeline is in itself unlikely to provide long-term answers to area servicing concerns because the ultimate growth limits are likely to be caused by sewage assimilation capacity of the receiving lakes and streams. Water supply must be planned together with sewage disposal to protect watershed ecosystems and ensure efficient public investments in infrastructure. Any water supply proposals must be evaluated in concert with complementary proposals for sewage disposal in the context of regional settlement and watershed plans.
- To balance economic and environmental priorities in the area, long term settlement, servicing and infrastructure planning must be coordinated with watershed planning in three watersheds: the Grand River; the Nottawasaga River; and Lake Simcoe.
- An opportunity exists to protect the headwaters of several important river systems centred in Dufferin county through a long term cooperative approach to planning, thereby avoiding the need for reactive crisis management as was needed in the Oak Ridges Moraine.

# Proposals

## FOR RESOLVING CROSS-BOUNDARY ISSUES

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**1. Area-specific provincial policy statements should be jointly prepared to define cross-boundary interests, objectives and policies in the three shared watersheds of the Grand River, the Nottawasaga River and Lake Simcoe.**

In each of these watersheds, the key cross-boundary interest could be defined as coordination of long-term settlement, servicing and infrastructure plans with environmental and resource plans for the watershed. In this way, appropriate economic development can be balanced with needs to maintain a healthy environment and an efficient use of public resources.

The key cross-boundary policy for the area could be that a joint settlement and servicing strategy be prepared through a cooperative effort involving all upper and lower tier municipalities in the watershed, the conservation authority, aboriginal communities, affected provincial ministries and the public.

**2. An area-specific provincial policy statement should be jointly prepared to define provincial cross-boundary interests in the long-term protection of the fragile headwater areas of several rivers centred in Dufferin County.**

The key provincial interest could be defined as protection of the sensitive surface and groundwater resources of the headwater areas from the cumulative effects of development through a cooperative long term approach to settlement planning in the area.

The key provincial policy could call for joint studies to be undertaken by the conservation authorities, provincial ministries and municipalities to more accurately locate and identify the sensitive characteristics of the headwater areas, and determine appropriate settlement criteria. These findings could then be incorporated into the watershed strategies discussed above, and the relevant municipal plans.

**3. The following should be required as the basis of provincial consideration of inter-regional water pipeline proposals from Great Lakes sources:**

- a) a full evaluation of alternative water sources
- b) an integrated evaluation and approval of long-term solutions for both water and sewage disposal
- c) support for the goals and objectives of the area-specific provincial policies and resulting watershed strategies as outlined in 1 and 2 above























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